In the claims:

Please cancel claims 1-14 and begin examination on claims 15-24.

15 . A method for treating a pathology characterized by damaged myelin or neurological deterioration, comprising

(i) providing a composition in vitro that consists essentially of mesenchymal stromal cells and a physiologically compatible carrier,

(ii) exposing said composition to conditions such that said mesenchymal stromal cells differentiate into differentiated cells selected from the group consisting of neurons and oligodendrocytes, and

(iii) allowing said differentiated cells to compensate for said neurological deterioration or damaged myelin in a subject suffering from said pathology.

16. A method according to claim 15, wherein step (ii) comprises introducing said composition into the nervous system of said subject.

17. A method according to claim 15, wherein step (ii) is implemented in vitro and step (iii) comprises introducing said differentiated cells into the nervous system of said subject, such that said differentiated cells compensate for said damaged myelin or neurological deterioration.

18. A method for preparing differentiated cells, comprising

(i) providing a composition that consists essentially of mesenchymal stromal cells and a physiologically compatible carrier and

(ii) exposing said composition to conditions such that said mesenchymal stromal cells differentiate in vitro into neurons or oligodendrocytes.

19. A composition that consists essentially of immortalized mesenchymal stromal cells and a physiologically compatible carrier.

20. The composition of claim 19, wherein said cells further comprise one or more exogenous genes.

21. The composition according to claim 20, wherein the exogenous gene is hTERT.

22. A method for treating a pathology characterized by damaged myelin, comprising

(i) providing a composition in vitro that consists essentially of mesenchymal stromal cells and a physiologically compatible carrier

(ii) culturing said cells in a medium comprising a neuroblastoma conditioned medium, wherein said culturing step provides oligodendrocyte precursor cells capable of differentiating into oligodendrocytes, and (iii) allowing said differentiated cells to compensate for said damaged myelin in a subject suffering from said pathology.

23. A method according to claim 22, wherein said neuroblastoma conditioned medium is B104 conditioned medium.

24. A method according to claim 23, wherein step (iii) comprises introducing said oligodendrocyte precursor cells into the nervous system of said subject, such that said differentiated

cells compensate for said damaged myelin.